

**University of Waterloo
Department of Economics
ECON 290, Lec 042
Models of Choice in Competitive Markets
Winter 2021**

1. Instructor Information

Instructor: Margaret Insley
Office Hours: by appointment via Teams
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2. Course Objectives and Learning Outcomes

Choice lies at the heart of all economic models. This course focuses on choice by consumers and firms. It explains the notion and use of utility functions and budgets, and shows how their interaction allows economists to make predictions about behaviour. The constrained maximization techniques from ECON 211 are used extensively, and extended to situations covering uncertainty (risk) and time. Profit maximization by firms is explored.

Learning Outcomes:

By the end of the course a student should be able to:

- Describe and explain key economic models of consumer and producer choice
- Demonstrate the implications of these economic models for predictions about consumer and producer behaviour
- Analyze consumer and producer decision problems using graphs
- Use calculus to solve optimization problems faced by consumers and producers
- Explain how economic models of consumer and producer decisions help us make predictions about economic outcomes.

3. Course Materials

- **Recommended Text:**

This course will be based on *'Intermediate Microeconomics: a Modern Approach' (9th edition) by Hal Varian, Norton 2014* (previous editions are also acceptable).

The topics are also all covered by standard intermediate microeconomics textbooks (that use calculus). You may want to read through the relevant sections of some such book because (a) it

can provide a different perspective on material presented, (b) it has a more space devoted to discussions and examples, and (c) it serves as a source of exercises and practice problems. Here is a list of such textbooks:

- Osborne, M.J., and Rubinstein A., Models in Microeconomic Theory (open source).
- Eaton, B.C., Eaton, D.F. and D.W. Allen, Microeconomics: Theory with Applications.
- Perloff, J.M., Microeconomics: Theory and Applications with Calculus.
- Mochrie, R., Intermediate Microeconomics.
- Serrano, R., and Feldman A.M., A Short Course in Intermediate Microeconomics with Calculus.
- Goolsbee A., Levitt, S., and Syverson, C., Microeconomics.
- **Readings Available on LEARN:**

Lecture slides, lecture videos, YouTube links to the lecture videos, exercises and their solutions and/or answers, and assignment questions will be posted on LEARN.

4. Course Requirements and Assessment

<i>Assessment</i>	<i>Weighting</i>
<i>Assignments</i>	24%
<i>Midterm 1</i>	15%
<i>Midterm 2</i>	15%
<i>Midterm 3</i>	15%
<i>Final Exam</i>	31%
<i>Total</i>	100%

For any assessment, please remember that:

The University of Waterloo subscribes to the strictest interpretation of academic integrity. Faculty members and students bear joint responsibility in assuring that cheating on assignments or any examination is not tolerated.

Students who engage in academic dishonesty will be subject to disciplinary action under Policy 71.

All assessments are protected by copyright. Reproduction or dissemination of any assessment or the contents or format of the assessment in any manner whatsoever (e.g., sharing the content with other students), without the express permission of the instructor, is strictly prohibited.

By taking this course, every student affirms his/her/their agreement to the following statements:

- **I confirm that I will keep the content of any assessment confidential.**

- **I confirm that I have not received any unauthorized assistance in preparing for or writing of any assessment.**
- **I confirm that I will not access the Internet or any other unauthorized resource in the writing of any assessment.**
- **I confirm that I will use only my own lecture notes, textbooks, and any other document provided by the instructor in the writing of any assessment.**

Assignments:

Three assignments to be submitted through Dropbox on LEARN. You will have a problem set to solve. Each assignment worth 8% of the final grade.

A deduction of 5% per day (of the total points of the assignment) will be applied to an assignment handed in late.

Students with a concern about the marking of an assignment must consult with me **within two weeks** of the date that it is returned to the class. After two weeks I will not make any adjustments to an assignment mark.

Assignments will be handed out approximately one week in advance of the due date.

	<i>Due date</i>
<i>Assignment 1</i>	February 26, Friday, 11:59 pm
<i>Assignment 2</i>	March 19, Friday, 11:59 pm
<i>Assignment 3</i>	April 14, Friday, 11:59 pm

Midterms:

Three midterms to be completed during the term through LEARN. You will have access to the midterm for 24 hours (from 12:01 am to 11:59pm) and once you start, you will have only one attempt and limited time. Details about the coverage of the midterms will be announced on LEARN.

	<i>Due date</i>
<i>Midterm 1</i>	February 8, Monday, 12:01 am – 11:59 pm
<i>Midterm 2</i>	March 8, Monday, 12:01 am – 11:59 pm
<i>Midterm 3</i>	April 5, Monday, 12:01 am – 11:59 pm

Final Exam:

The final exam is cumulative and will test all of the material in the course. You will have access to the final exam for 24 hours and once you start, you will have only one attempt and limited time. Note that the final will not be rescheduled under any circumstances if both midterms have been missed. You should by now be familiar with the deferred final exam policy of the department.

	<i>Due date</i>
<i>Final Exam</i>	TBA

Missing an Assessment:

The weight of a missed assignment for which a Verification of Illness Form (VIF) is accepted will be moved to the other assignments, and the weight of a missed midterm for which a VIF is accepted will be moved to the other midterms in equal parts. If you happen to be sick for all midterms you should consider dropping the course.

5. Live Sessions, Office Hours and Contacting the Instructor

I will hold a once a week live session during which I will introduce the upcoming lecture materials, answer student questions and go over a problem or other course material. The scheduled time is Wednesday from 9:30 to 10:30 am EST. The sessions will be held using Bongo. The material covered in the live sessions will be posted on LEARN for those who are unable to attend.

When sending me email, please use your official UWaterloo account with ECON 290 in the subject line. Also include a signature line with your full name and student ID. Please treat email correspondence as a formal venue of communication. Before sending an e-mail, please check the “Discussions” on LEARN.

I am available for virtual office hours by appointment. Contact me via email for an appointment.

6. Weekly Course Schedule

<i>Date</i>	<i>Topic</i>	<i>Readings</i>	<i>Activities and Assignments (Due Date)</i>
<i>Week 1</i> Jan 11-15	Introduction 1.1. The budget constraint and the budget set 1.2. How the budget line changes	Varian, H. C1, Ch2. p. 20-26	Ex. Sec1 WO Sec1
<i>Week 2</i> Jan 18-22	1.3. Taxes, subsidies, and rationing 2.1 Consumer preference and assumptions about preferences	Varian, H. Ch2. p. 26-32 Varian, H. Ch3. p. 33-36	Ex. Sec1&2 WO Sec1&2
<i>Week 3</i> Jan 25-29	2.2. Indifference curves and examples of preferences 2.3. Well-behaved preference assumptions	Varian, H. Ch3. p. 36-53	Ex. Sec2 WO Sec2
<i>Week 4</i> Feb 1-5	3.1. Utility function 3.2. Examples of utility functions 3.3. Marginal utility and marginal rate of substitution	Varian, H. Ch4. p. 54-73	Ex. Sec3 WO Sec3

Midterm 1 (February 8, Monday)

<i>Week 5</i> Feb 8-12	4.1. Optimal choice 4.2. Consumer demand 4.3. Lagrangian method in utility maximization	Varian, H. Ch5. p. 74-84 & 91-95	Ex. Sec4 WO Sec4
<i>READING WEEK (Feb 13 – Feb 21)</i>			
<i>Week 6</i> Feb 22-26	5.1. Net and gross demands and budget constraint 5.2. Changing the endowment and prices	Varian, H. Ch9. p. 161-168	Ex. Sec 5 WO Sec 5
<i>Assignment 1 (due date: February 26, Friday)</i>			
<i>Week 7</i> Mar 1-5	6.1. Budget constraint, present and future value 6.2. Preferences for consumption and optimal choice	Varian, H. Ch10. p. 1823188	Ex. Sec 6 WO Sec6
<i>Midterm 2 (March 8, Monday)</i>			
<i>Week 8</i> Mar 8-12	7.1. Insurance problem and budget constraint 7.2. Utility functions and probabilities	Varian, H. Ch12. p. 218-224	Ex. Sec7 WO Sec7
<i>SCHEDULED PAUSES (Mar 15 – Mar 16)</i>			
<i>Week 9</i> Mar 17-19	7.3. Expected utility and attitude toward risk 7.4. Choice under uncertainty	Varian, H. Ch12. p. 214-234	Ex. Sec7 WO Sec7
<i>Assignment 2 (due date: March 19, Friday)</i>			
<i>Week 10</i> Mar 22-26	8.1. Technological constraints and examples of technology 8.2. Marginal product, TRS, and Returns to scale	Varian, H. Ch19. p. 351-363	Ex. Sec8 WO Sec8
<i>Week 11</i> Mar 29- Apr 1	9.1. Profits and short-run profit maximization 9.2. Long-run profit maximization 9.3. Lagrangian method in profit maximization	Varian, H. Ch20. P. 364-381 (except 374 and 379)	Ex. Sec9 WO Sec9
<i>Midterm 3 (April 5, Monday)</i>			
<i>Week 12</i> Apr 5-9	10.1. Cost minimization and tangent solution 10.2. Cost functions	Varian, Ch21. H. p. 383-397	Ex. Sec10 WO Sec10
<i>Week 13</i> Apr 12-14	10.3. Lagrangian method in cost minimization 10.4. Cost Curves	Varian, H. Ch22. p. 398-414	<i>Ass. 3 (Apr 14)</i> Ex. Sec10 WO Sec10
<i>Assignment 3 (due date: April 14, Wednesday)</i>			
Apr 17 – 26, Final Exam Period			

7. Economics Department Deferred Final Exam Policy

Deferred Final Exam Policy found at <https://uwaterloo.ca/economics/undergraduate/resources-and-policies/deferred-final-exam-policy>

8. Statements from the University included on all course outlines:

- **Academic integrity:**

In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. [Check [the Office of Academic Integrity](#) for more information.]

- **Grievance:**

A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70, Student Petitions and Grievances, Section 4](#). When in doubt, please be certain to contact the department's administrative assistant who will provide further assistance.

- **Discipline:**

A student is expected to know what constitutes academic integrity to avoid committing an academic offence, and to take responsibility for his/her actions. [Check [the Office of Academic Integrity](#) for more information.] A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course instructor, academic advisor, or the undergraduate associate dean. For information on categories of offences and types of penalties, students should refer to [Policy 71, Student Discipline](#). For typical penalties, check [Guidelines for the Assessment of Penalties](#).

- **Appeals:**

A decision made or penalty imposed under [Policy 70, Student Petitions and Grievances](#) (other than a petition) or [Policy 71, Student Discipline](#) may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to [Policy 72, Student Appeals](#).

- **Note for students with disabilities:**

[AccessAbility Services](#), located in Needles Hall, Room 1401, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with AccessAbility Services at the beginning of each academic term.

9. Other Information

- **Intellectual Property**

Students should be aware that this course contains the intellectual property of their instructor, TA, and/or the University of Waterloo.

Intellectual property includes items such as:

- Lecture content, spoken and written (and any audio/video recording thereof);
- Lecture handouts, presentations, and other materials prepared for the course (e.g., PowerPoint slides);
- Questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams); and
- Work protected by copyright (e.g., any work authored by the instructor or TA or used by the instructor or TA with permission of the copyright owner).

Course materials and the intellectual property contained therein, are used to enhance a student's educational experience. However, sharing this intellectual property without the intellectual property owner's permission is a violation of intellectual property rights. For this reason, it is necessary to ask the instructor, TA and/or the University of Waterloo for permission before uploading and sharing the intellectual property of others online (e.g., to an online repository).

Permission from an instructor, TA or the University is also necessary before sharing the intellectual property of others from completed courses with students taking the same/similar courses in subsequent terms/years. In many cases, instructors might be happy to allow distribution of certain materials. However, doing so without expressed permission is considered a violation of intellectual property rights.

Please alert the instructor if you become aware of intellectual property belonging to others (past or present) circulating, either through the student body or online. The intellectual property rights owner deserves to know (and may have already given their consent).

- **Chosen/Preferred First Name**

Do you want professors and interviewers to call you by a different first name? Take a minute now to verify or tell us your chosen/preferred first name by logging into [WatIAM](#).

Why? Starting in winter 2020, your chosen/preferred first name listed in WatIAM will be used broadly across campus (e.g., LEARN, Quest, WaterlooWorks, WatCard, etc). Note: Your legal first name will always be used on certain official documents. For more details, visit [Updating Personal Information](#).

Important notes

- If you included a preferred name on your OUAC application, it will be used as your chosen/preferred name unless you make a change now.
- If you don't provide a chosen/preferred name, your legal first name will continue to be used.

- **Mental Health Support**

All of us need a support system. The faculty and staff in Arts encourage students to seek out mental health support if they are needed.

On Campus

Due to COVID-19 and campus closures, services are available only online or by phone.

- Counselling Services: counselling.services@uwaterloo.ca / 519-888-4567 ext. 32655
- [MATES](#): one-to-one peer support program offered by the Waterloo Undergraduate Student Association (WUSA) and Counselling Services

Off campus, 24/7

- [Good2Talk](#): Free confidential help line for post-secondary students. Phone: 1-866-925-5454
- Grand River Hospital: Emergency care for mental health crisis. Phone: 519-749-4300 ext. 6880
- [Here 24/7](#): Mental Health and Crisis Service Team. Phone: 1-844-437-3247
- [OK2BME](#): set of support services for lesbian, gay, bisexual, transgender or questioning teens in Waterloo. Phone: 519-884-0000 extension 213

Full details can be found online on the Faculty of Arts [website](#)

Download [UWaterloo and regional mental health resources \(PDF\)](#)

Download the [WatSafe app](#) to your phone to quickly access mental health support information.

- **Territorial Acknowledgement**

We acknowledge that we are living and working on the traditional territory of the Attawandaron (also known as Neutral), Anishinaabe and Haudenosaunee peoples. The University of Waterloo is situated on the Haldimand Tract, the land promised to the Six Nations that includes ten kilometres on each side of the Grand River.

For more information about the purpose of territorial acknowledgements, please see the [CAUT Guide to Acknowledging Traditional Territory](#).

- **Academic freedom at the University of Waterloo**

[Policy 33, Ethical Behaviour](#) states, as one of its general principles (Section 1), “The University supports academic freedom for all members of the University community. Academic freedom carries with it the duty to use that freedom in a manner consistent with the scholarly obligation to base teaching and research on an honest and ethical quest for knowledge. In the context of this policy, 'academic freedom' refers to academic activities, including teaching and scholarship, as is articulated in the principles set out in the Memorandum of Agreement between the FAUW and the University of Waterloo, 1998 (Article 6). The academic environment which fosters free debate may from time to time include the presentation or discussion of unpopular opinions or controversial material. Such material shall be dealt with as openly, respectfully and sensitively as possible.” This definition is repeated in Policies 70 and 71, and in the Memorandum of Agreement, Section 6